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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/841,365

04/24/2001

Ryan Paul Eidem

DAKTRONICS

6262

7590

11/29/2005

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EXAMINER

TRAN, TAM D

ART UNIT

PAPER NUMBER

2676

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/841,365

Applicant(s)

EIDEM ET AL.

Examiner

Tam D. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-31,33-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4-31, 33-34, rejected under 35 U.S.C. 102(e) as being anticipated by Johnson et al. (USPN 6219099 B1), hereinafter simply Johnson.

2. In regard to claim 1, Johnson teaches a process for calibrating an electronic sign (viewing screen), see col.4 line 65 – col.5 lines 1-25, comprising the step of: using an imaging device to take an image of an electronic sign (using camera for capturing of the viewing screen); see Fig.3, see col.6 lines 10-35; and using that image to determine control values needed to bring the sign into uniformity (the resulting capture images are processed to compensate for color non-uniformity), see col.5 lines 14-25.

3. In regard to claim 4, Johnson teaches the process for calibrating an electronic sign (viewing screen), wherein the electronic sign is a monochrome display. See col.10 lines 63-67.

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4. In regard to claim 5, Johnson teaches the process for calibrating an electronic sign (viewing screen), wherein the electronic sign is a multiple color display. See col.10 lines 63-67.
5. In regard to claim 6, Johnson teaches the process for calibrating an electronic sign (viewing screen), wherein the electronic sign has red, green, blue color capability. See col.10 lines 63-67.
6. In regard to claims 7, Johnson teaches that imaging device is a digital camera. See col.7 lines 64-67.
7. In regard to claim 8, Johnson teaches the process for calibrating an electronic sign (Viewing screen), wherein the electronic sign is multiple color display, col.10 lines 63-67, and the imaging device distinguishes the multiple colors of the multiple color display of the electronic sign (capture image may be compared to predetermine data). See col.8 lines 12-23 and col.10 lines 55-65.
8. In regard to claim 9, Johnson teaches that the imaging device includes color filter to distinguish the multiple colors (photoptic filter). See col.8 lines 1-5.
9. In regard to claim 10, Johnson teaches the imaging device is a video camera. See col.7 lines 64-67.
10. In regard to claim 11, Johnson teaches that video camera is monochrome video camera. See col.8 lines 1-5.
11. In regard to claim 12, Johnson teaches that video camera is multiple color video camera. See col.8 lines 1-5.
12. In regard to claim 13, Johnson teaches that image device includes CCD. See col.8 lines 1-5.

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13. In regard to claim 14, Johnson teaches that CCD includes a plurality of sensors, and wherein sensors of CCDs are arranged in rows and columns. It is inherent that CCD is array of sensors. See col.8 lines 1-5.

14. In regard to claim 15, Johnson teaches image device, wherein the electronic sign includes a plurality of pixels and wherein sensors in the plurality of sensors in the imaging device exceeds pixels in the plurality of pixels in the electronic sign. See col.16 lines 50-64.

15. In regard to claim 16, Johnson teaches image device including a lense (optic filter). See col.8 lines 1-5.

16. In regard to claim 17, Johnson teaches each of the pixels of the plurality of pixels of the electronic sign are mapped to at least one sensor of the plurality of sensors of imaging device (capture image of the display which read on mapping luminance of the display to the sensors). See col.16 lines 47-60.

17. In regard to claim 18, Johnson teaches each of the pixels of plurality of pixels of the electronic sign being mapped to multiple sensors of the plurality of sensors of the imaging device (capture image of the display which read on mapping luminance of the display to the sensors). See col.16 lines 47-60.

18. In regard to claim 19, Johnson teaches the electronic sign including four corners, which four corners mark the image for mapping the each of pixels of plurality of pixels of electronic sign so as to assign corresponding multiple sensors of the imaging device (capture image of the display which read on mapping luminance of the display to the sensors). See col.16 lines 47-60.

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19. In regard to claim 20, Johnson teaches the electronic sign, further comprising step of dividing the pixels between the four corners into rows and columns corresponding to pixels rows and columns of the electronic sign. See Fig. 11, Fig. 12.

20. In regard to claim 21, Johnson teaches the electronic sign, further comprising step of dividing the plurality of corresponding multiple sensors assigned to each pixel of the electronic sign between the four corners into rows and columns corresponding to pixel rows and columns of the electronic sign. See Fig. 11, Fig. 12.

21. In regard to claim 22, Johnson teaches step of providing a grid of small number of points on the electronic sign to correct the mapping for distortions. See col. 8 lines 40-46.

22. In regard to claim 23, Johnson teaches the distortions are caused by the lense of the imaging device (camera distortion). See col. 8 lines 24-39.

23. In regard to claim 24, Johnson teaches the distortions are caused by the angle of the imaging device to the electronic sign (deviation from expected location). See col. 8 lines 33-37.

24. In regard to claim 25, Johnson teaches the small number of points in the grid is from 16 to 20 (9x 9 array of dots). See Fig. 12, col. 14 lines 21-25.

25. In regard to claim 26, Johnson teaches the multiple sensors of the imaging device corresponding to a pixel of the sign are defined as an image pixel further comprising the step of averaging the value of the multiple sensors of an image pixel. See col. 15 lines 1-8.

26. In regard to claim 27, Johnson teaches image pixels are average for red, green, and blue. See col. 15 lines 1-8.

27. In regard to claim 28, Johnson teaches calculating a difference between the determined value and a desired value is calculated for each sign pixel for red, green, and

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blue (comparing captured image to a predetermined data). See col.8 lines 11-23 and col.11 lines 7-22.

28. In regard to claim 29, Johnson teaches luminance reading from the photometer producing commanded value to actual the luminance that is a characteristic of luminance settings, which read on the calculated differences are used to readjust and control each sign pixel for red, green, and blue (compensating coefficients using for color alignment). See col.11 lines 25-35.

29. In regard to claims 30, 31, Johnson teaches a statistical characterization of electronic sign is determined (mean, variance, minimum and maximum) for the calculated differences for each sign pixel for red, green, and blue (weigh averaging of dots corresponding to mean value). See col.15 lines 4-10.

Claim Rejections - 35 USC § 103

30. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 32 is rejected under 35 U. S.C. 103(a) as being unpatentable over Johnson et al. (USPN 6219099 B1) in view of McCauley (USPN 5363318).

In regard to claim 32, Johnson teaches a statistical characterization of electronic sign is determined (mean, variance, minimum and maximum) for the calculated differences for each sign pixel for red, green, and blue (weigh averaging of dots corresponding to mean

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value). See col.15 lines 4-10. Johnson does not teach iterative repetition for calculating differences. However, McCauley teaches iterative repetition for calibration. See Fig.9A.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the calibrating method of Johnson into the iterative repetition method of McCauley because a combination of Johnson's method and McCauley's method would provide a continuous operation for calibrating the a display.

31. In regard to claims 33, Johnson teaches image device is a camera having a removable storage medium, which removable storage medium, including the image of the electronic sign, is transferred to a personal computer for processing (image data is stored, it is inherent that image data is stored in a memory). See col.16 lines 58-60.

32. In regard to claim 34, Johnson teaches a process for calibrating an electronic sign (monitor), wherein the device is connected directly to a personal computer (processor), such that the image is transferred to the personal computer for determining the control values. See Fig.3.

Conclusion

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tam D. Tran** whose telephone number is **571-272-7793**. The examiner can normally be reached on MON-FRI from 8:30 – 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Matthew Bella** can be reached on **571-272-7778**. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tam Tran

TT
Examiner

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